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ABSTRACT

This issue of Keying In, the newsletter of the National Business Education Association, focuses upon teaching young adults how to develop both investment strategies and an understanding of the stock market. The first article, "Sound Investing Know-How: A Must for Today's Young Adults," describes how young adults can plan for their own financial security by saving 10% of their gross salary and investing it in order to face these three long-term financial challenges: buying a home, funding their children's education, and saving for their own retirement. The second article, "Teaching Strategies: A Deliberate Walk Down Wall Street," describes ways to teach young adults about the stock market, including some of the following: (1) introduce basic concepts; (2) play simulation games; (3) bring in current events and topics; (4) do not feel obligated to familiarize students with every type of investment; (6) use outside resources; (7) find training; and (8) explain the difference between saving and investing. Other articles include "Investing for Life: The Importance of Diversification and Financial Discipline" and "Who Wants to Be a Millionaire?" Contains a list of terms and concepts recommended by teachers of investment and personal finance classes that students need to know and a list of 16 Web site resources. (MO)

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# Stock Market Savvy

## Keying In

Volume 14 Number 1
September 2003

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# Keying In

The Newsletter of the National Business Education Association

Volume 14 Number 1 September 2003

# STOCK MARKET SAVVY

## Sound Investing Know-How: A Must For Today's Young Adults

How would the average American manage $1.2 million? How about $2 million? This is a challenge many would consider beyond the expertise of the majority of Americans. It is a task, however, that most of today's teenagers will face in the next 50 years. According to the Washington D.C.-based Employment Policy Foundation (EPF), the average high school graduate can expect to earn $1.2 million in his or her lifetime, while the average college graduate has an earning potential of about $2 million.

In its January 2003 issue, *Keying In* addressed the state of financial literacy and personal finance education in the United States. Given the average projected incomes cited by EPF, there is no question of the universal need for young adults to acquire money management skills.

Today's young adults should learn how to budget and how to stay away from crushing debt. Just as importantly, they need to become wise in the ways of investing. Sound investments can help them to meet significant expenses in buying homes, educating their children, and funding retirement.

In particular, young adults should learn how to invest in stocks. Despite its dismal showing between 2000 and 2002, the stock market continues to be a place where Americans have a strong likelihood of seeing their investments grow in the long term. Between 1906 and 2000, the National Center for Policy Analysis reports that American stock markets returned an annual average of a little over 10 percent when adjusted for inflation. According to research from Merrill Lynch, the average annual return of stocks listed in the Standard & Poor's 500 index (including the reinvestment of dividends) was 11.13 percent between 1953 and 2002.

"How can they (young adults) be successful in life if they don't plan for their own financial security, or at least be prepared to make good financial decisions?" asks **Judith Sams**, a business teacher for the Fuqua School, an independent school in Farmville, Virginia. "The times are past when we can rely on Social Security or putting money into a savings account in a bank. Inflation and taxes eat that money away. We have to be educated enough to make good financial decisions."

### Ten Percent Off the Top

The rates of personal savings are dismal in the United States (see *Keying In*, January 2003), and financial experts agree that this trend should be reversed. They vary in their recommendations about the amount of money anyone should be

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## Teaching Strategies: A Deliberate Walk Down Wall Street

Getting and holding student attention is a common challenge for teachers. But this isn't a problem for business teachers whose subject is the stock market.

"Very few kids know what the stock market is about," says **Jim Miles,** a business teacher at Pittsford Sutherland High School in Pittsford, New York, "but the stock market, to any kid, is intriguing. They think it is a way you can make money. There is a certain amount of excitement about the stock market. They probably have fantasy notions about it, but no real foundation in it."

**Judith Sams,** a business teacher at the Fuqua School in Farmville, Virginia, agrees. "This is not a unit [for which] you have to work hard to get the students interested. They *are* interested," she says. "Their idea is that you will earn a lot of money. But their typical teenage knowledge is very limited on some of the things I think are important."

Sams' and Miles' observations are verified by a national survey of 4,024 high school seniors conducted by the University of Buffalo in 2002 and sponsored by the Jump$tart Coalition

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putting away to meet long-term needs. However, 10 percent of gross salary is a common goal.

**Jim Miles,** a business teacher at Pittsford Sutherland High School in Pittsford, New York, uses some compelling math to convince students in his Financial Planning and Investment Management courses to do this. If they save 10 percent of the average college graduate's pay, Miles' students come to realize "they will have a million dollars when they reach their early 50s," he notes. "That is a mind-opener for them." (Even saving at a more modest rate of $100 a month will yield a million dollars. See "Who Wants To Be A Millionaire," page 7.)

**Roger Luft,** professor of career and technical education at Eastern Illinois University in Charleston, Illinois, agrees. Luft teaches a consumer education class and he tells his students to "Pay yourself first. Then work with the remainder for living expenses." He adds, "People have the capacity to do this, but [many] lack the willingness and the discipline."

## Education and Retirement Costs

Students may question why they need to save and invest that 10 percent when they have immediate needs for clothing, housing, furniture, and transportation. The answer is that they likely will face three long-term financial challenges: buying a home, funding their children's education, and saving for their own retirement.

(Experts warn, however, that the sometimes volatile stock market may not be the best place to put savings toward a down payment of a home. Most financial experts recommend that people not invest money that they will need in the next five years into the stock market, and that saving toward a down payment could be a five-year goal for some.)

One of the projects that Miles' students have tackled is researching how much college will cost for today's young children. They find plenty of resources for this on the Web. For instance, the National College Resource Association estimates that a student starting college in 2017 will pay $115,150 to attend a public four-year college and $245,006 to attend a private college. Thanks to inflation, the costs will continue to climb for the years after that.

The retirement picture for today's young people presents another set of challenges. Many will be lucky to be covered by any kind of pension plan at all, while pension plans that guarantee a certain annual income throughout retirement are fast becoming a thing of the past.

Today, only about 50 percent of American workers are covered by company pension plans, according to AARP, formerly known as the American Association of Retired Persons. And most of those workers are not covered by defined benefit plans, where they can count on a set amount of income for their entire retirement. According to Bureau of Labor Statistics figures cited by the AARP, the percentage of full-time workers covered by defined benefits plans dropped from 32 percent in 1996-97 to 22 percent in 2000. The remainder of workers covered by company pension plans has defined contribution plans, especially 401(k) plans, in which benefits accrue from the individual's payroll deductions and sometimes from matching contributions by employers.

AARP says that these defined contribution plans will result in less predictable retirement income because employee participation in most cases is voluntary, the investment risk is shifted from the employer to the employee, and access to funds before retirement has been made easier. In other words, if today's workers covered only by 401(k) funds see those funds run out in retirement, there will be no company pension plans to back them up. And with questions about Social Security's ability to withstand the coming drain from baby boomer benefits, as well as talk about Social Security reform in Congress, today's teenagers would be wise to not count completely on Social Security as a reliable backup plan.

"It is imperative that kids today learn about the stock market," says **Debbie Lary,** a business teacher at Newton High School in Covington, Georgia. "There are no more pension funds, there aren't the retirement plans that were offered years ago. These kids are going to have to invest in their own futures. There's no way to get around it. Even if they start out with a company that has a retirement plan, who says they won't be laid off tomorrow?"

Surprisingly, high school students who are taking personal finance or investment courses consider these issues seriously.

"It seems strange to talk to high school students about retiring, but once they are in the workforce, it will hit them right away," says **Warren Washburn,** who teaches business in York High School in York, Nebraska. "I thought it seemed strange, but they accepted it." ■

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for Personal Financial Literacy. It showed a five-year decline in student knowledge of income, money management, saving, investing, spending and credit issues. On average, students answered 50.2 percent of the questions correctly, down from similar studies conducted in 2000 (with a 51.9 percent correct answer rate) and 1997 (57.3 percent correct answer rate).

"[Students] have no real understanding about how the stock market works," says **Warren Washburn,** a business teacher at York High School in York, Nebraska. "Some probably think that if you wanted to buy Wal-Mart stock you could get it at a Wal-Mart store. It all has to be explained to them."

Clearly, there is a lot of work to be done in educating students about the stock market. Here is what some teachers are doing.

## Lay a Foundation First

While some schools offer courses that concentrate on investment and investment management, others offer units on investing within personal finance courses. In both cases, educators emphasize that students need grounding in the fundamentals first.

"The key is to teach sound principles of investing," says **John Morton,** vice president for program development for the National Council on Economic Education.

In the case of learning about the stock market, the task can seem daunting. Teachers may need to introduce basic concepts such as what a share of stock is, and what roles the New York Stock Exchange and Nasdaq play in buying and selling stock. And while students think that picking stock may be something of a random act, teachers have the task of explaining why investors should research companies before buying stock, and what is involved in the research.

Miles teaches two stock market-related courses at his high school, called Financial Planning and Investment Management. Among his techniques for acquiring fundamental knowledge is requiring students to do Internet searches.

"We give them hundreds of questions about the various exchanges. We'll ask them all sorts of questions. How many miles of cable are in the New York Stock Exchange? How many stocks are listed there? What happened on such and such a day? They gain a real solid understanding of the stock exchanges—they know where the money comes from, how to create the marketplace for buying and selling."

(For a list of terms and concepts that teachers interviewed for this newsletter think important for their students to know, see "The Need To Know" on page 6.)

Miles' courses include field trips to New York, where they visit both the New York Stock Exchange and Nasdaq facilities. (While the NYSE is an actual marketplace where representatives of buyers and sellers mingle, Nasdaq is run through a network of computers where there are no face-to-face sales and interactions.) Students compare what they have seen, noting the types of stocks the exchanges specialize in. Students also take a field trip to Toronto to see the stock exchange there and to get a feel for international markets.

The legendary frenzy and noise of the stock exchanges make an impression on Miles' students. "The biggest awakening to them is how disorderly it looks, yet how orderly the results are … It's a real eye opener to kids that millions of dollars can be traded with all this chaos going on."

Of course not all schools are located within a comfortable distance of New York or other cities where there are regional stock exchanges, but alternatives exist. Sams takes her class to the offices of a local investment firm where brokers allow the students to watch how they buy and sell stocks using computers. Both Sams and Washburn recommend videos such as those produced by organizations such as The Learning Channel. Washburn particularly likes one called "Stock Exchange" produced by The History Channel. If students cannot observe the stock exchanges in person, these videos can be the next best thing.

**Debbie Lary,** a business teacher at Newton High School in Covington, Georgia, provides her students with Wall Street basics through an eight-week simulation packet that includes computer programs and printed student and teacher materials published by South-Western Educational Publishing Co. While the packet, called The Stock Market: An Investment Simulation, is expensive ($650 for the software alone, plus a per-student printed material cost), Lary says it gives her students a solid introduction. The program creates an entirely fictional—but realistic—stock market trading scenario. Its materials provide a structure for students to learn the terminology of trading and how the stock market works. It provides supplementary student reading material and then asks students to invest $25,000 in fictional companies in the simulated market. Students both make and lose money using the simulation. The trading portion lasts three weeks.

Plenty of free material is available for teachers and their students. For example, the Nasdaq Educational Foundation offers a free CD to teachers called "Market Mechanics," available at www.nasdaq.com. **Laura Levine,** director of the foundation, explains that the CD contains different sections explaining the history of the stock markets, the details involved in IPOs (Initial Public Offerings), and how trades are made through Nasdaq and the New York Stock Exchange.

**Roger Luft,** professor of career and technical education at Eastern Illinois University in Charleston, Illinois, warns that there are few, if any, textbooks about the stock market appropriate for high school students. "Textbooks get outdated quickly," he adds. "Use the Internet to obtain current information."

Miles agrees. "Everything you want or need for these courses, you can find on the Internet. The information is up-to-date and most relevant. The Internet is just fabulous."

(For suggestions on Web sites that provide a wealth of free education and research material regarding the stock market, see "Resources" on page 8.)

## Simulation Games

In contrast to the fictional simulation that Lary uses, most stock market classes include a type of simulation that is based on the real-world workings of the stock market. In these simulations, students are able to create a stock investment portfolio using a hypothetical amount of cash, typically $25,000 or $100,000. Students are encouraged to research actual companies and business sectors and decide what stocks they are going to buy.



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The simulations usually have a defined start and stop time, and students are allowed to make unlimited hypothetical trades within that time period. Their trades are tied to the actual price of the stocks of the companies they pick. Often, teams of students will compete with one another to see who will make the most profits by the end of the game. The competition may be limited to the class itself, or can be expanded to regional, state and national competitions.

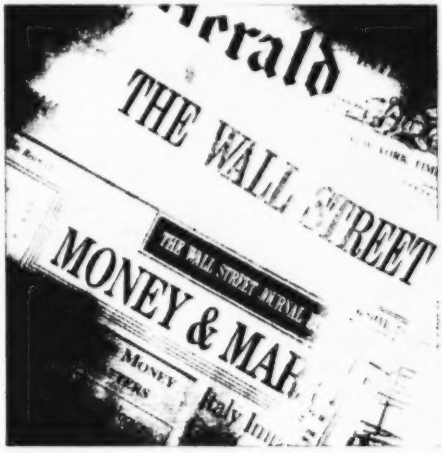
The most popular simulation games that offer wide and organized competition are The Stock Market Game (www.smg2000.org) and Stock-Trak (www.stocktrak.com). The Stock Market Game is sponsored by the nonprofit Securities Industry Foundation for Economic Education, whose members include 7,600 brokerage houses and investment banks. **Robert H. Strong**, the foundation's executive director, says that about 500,000 students in grades 4 through 12 participated in the Stock Market Game in 2002-03. Stock-Trak is a for-profit company based in Duluth, Georgia. **Mark Brookshire**, president and owner of Stock-Trak, says that about 250,000 students participated in his company's simulation during the last school year. Both organizations award prizes to top-ranking teams, which can include trophies and T-shirts given out at recognition banquets.

These games are not limited to business students. Other young people participate as part of their math, social studies, or economics courses. Strong and Brookshire say the simulations teach multiple lessons, and not just investment strategies. They can be used to meet education standards in such curriculum areas as math and social studies.

The organized simulations usually are not free. Stock-Trak's fees vary, but are typically $18.95 per team. The Stock Market Game's team fee can range from free (when other organizations underwrite the team fee) to $25. The trading portion of both games is usually 10 weeks long, and both organizations provide many different 10-week playing periods throughout the year. Both games provide supporting teaching materials which, depending on the organization, include lesson plans, newsletters, charts, graphs, and explanatory literature.

Strong emphasizes that the supporting materials are a very important part of the simulation. "The trading is the fun part for the kids," he notes. "What we try to do is help teachers teach difficult concepts, such as math and economics, in a way that helps students understand why they need to save and invest."

The games have been very successful over the years, and students enjoy them tremendously. "We had a lot of fun with the Stock Market Game," Washburn says. "When you get the kids in groups and hear them discussing the subject, you have to be pretty happy as a teacher. You just let them go, you let them manage."




Teachers who do not sign up for these organized games, however, can still provide their students with simulations. Sams, for example, runs a reality-based simulation taken entirely from portfolio trackers available on Yahoo's finance pages on the Web (http://finance.yahoo.com). "It's free and easy to use," Sams reports. "It's flexible, and I can match it with my teaching. This makes it easier for students to do research, to create their portfolios, and to refresh it regularly."

Sams supplements the simulation portion by asking a local stockbroker to donate a share of stock or two to the winning team in her class. The students "are absolutely thrilled" by this, she says. While Sams knows that many students benefit from the stock market simulations, she is cautious.

"The Stock Market Game is a competition thing," she says. "There are lots of students who just guess and they are lucky with it. I don't want students to see the stock market as a lottery."

Others agree that the simulations have limitations.

"It seems to me that stock market simulations are not sufficient as a stand-alone activity to teach investing principles," says Morton. "They tend to focus, by their nature, on the short-term. And if it's one thing we have learned, is that we have to go farther…

"My basic advice is that you should have a stock market simulation together with lessons emphasizing sound money management, the reasons to save, and basic principles of investing, including stocks, bonds, and mutual funds."

Some teachers who use simulations do not always adequately explain . . . investing principles or the need for research into companies, Morton believes. He once attended a simulation state awards banquet in Illinois, and discovered that a middle school team had won the competition, but not with the stock they thought they had purchased. "They thought they had bought Canon camera and they had actually bought Cannon towels," he recalls.

Morton also remembers a team that won a competition by throwing darts at a newspaper page of stock listings mounted on a bulletin board. They bought the stocks that were pinpointed by the darts.

This seemingly irresponsible technique is based on a classic book on the stock market, *A Random Walk Down Wall Street* by Burton Malkiel. One of the author's claims has become famous: Malkiel says that "a blindfolded chimpanzee throwing darts" at New York Stock Exchange listings can pick stocks as well as any finance professional. (Malkiel advises readers to buy and hold mutual funds that are indexed to the market and that do not incur heavy fees from financial managers.)

A caution of the simulation game structure also became apparent during the height of the Internet stock bubble in 1998-99, when students were presented with what was ultimately a dangerous view of the stock market. During this period, one of Washburn's teams came in first in the state of Nebraska playing the Stock Market Game. His students turned a hypothetical $100,000 investment into

$250,000 in 10 weeks by relying primarily on one stock: Yahoo.

"That whole year was unrealistic," Washburn recalls. "The next year, if you ended up staying even, you were a winner." Still, he is confident that his students were able to form a realistic picture of the profits and perils of the stock market because they stayed in touch with him and with each other. They continued to follow the stocks they had picked (including Yahoo, whose price subsequently plunged), even though they weren't involved in the game.

Washburn's student team would not be able to repeat their performance today even if they were able to find another company whose stock zoomed skyward as fast as Yahoo's did. The Stock Market Game now restricts a portfolio from holding any one stock that makes up more than about 35 percent of the portfolio's total worth. "We don't want students to buy one stock and flip it," says Strong. "We want them to develop a strategy."

Strong is working on ways that the Stock Market Game can reward research as well as monetary results. A partnership with DECA involving 16,000 high school students asked top teams to demonstrate the knowledge they had gained by playing the game. These students made presentations to competition officials.

"They got it," Strong reports. "They knew what sectors to pick, what stocks to pick and why. They understood and clearly explained why they diversified. They weren't overweighted anywhere. They understood the terms of future value."

Brookshire and Strong both acknowledge that the 10-week trading periods can present students with an incomplete picture of the stock market. While each game offers longer periods of play, the two chief executives say that the 10-week format was formulated to fit in with school schedules that come in varying lengths of semesters, quarters, and trimesters. "We can run it longer, but the reality is that we are operating it during the school year," says Strong.

Comments Brookshire: "You can't teach chemistry, either, in a 10-week period. But it is an introduction and opens students' eyes. The wonderful thing about the stock market is that it teaches business, economics, technology, group dynamics, current events, and international business. The students can see how the whole business information cycle is interrelated."

## More Teaching Tips

- Capture students' attention right away. Both Sams and Miles get their classes started every day by posing what Sams terms a "jumpstart," or new question. Usually the topic of the question is tied to current events. For example, Sams once asked her class why the chairman of Brinks rang the opening bell of the New York Stock Exchange the previous day. The answer was that Brinks was trading for the first time on the NYSE, and that led the class into a discussion of IPOs, or Initial Public Offerings.

- Use startling facts about money to wake students up. On the first day of his class, Washburn wrote the figure "$1,000,000" on the blackboard. He told students that many of them would get married and earn, spend, and invest a million dollars in their lifetimes. "I told the kids that you have to decide how you are going to use that money … I think that hit them. They were pretty interested in all forms of investments throughout the class."

- Bring in current events and topics as much as possible. Last spring, Miles used a *Forbes* magazine article examining the high salaries of company chief executives to pose a question to his students: How much should a CEO be paid? The students' eventual conclusion: a reasonable salary for a Fortune CEO is $1 million, which is about 30 times the average salary of American workers. That $1 million was far below the salary of the executive who topped Forbes' latest list of highly paid individuals. Jeffrey C. Barbakow, former CEO of Tenet Healthcare, was paid $116.7 million in salary, bonuses, and stock gains in 2002. (Tenet's stock fell 70 percent between October 2002 and May 2003 on questions of accounting improprieties, and Barbakow subsequently resigned.)

- Do not feel obligated to familiarize students with every type of investment. "You don't have to teach about commodities or options, or selling short or long," says Luft. "Stick with stocks, bonds and mutual funds." Sams emphasizes that teachers are not investment brokers and thus can't be expected to answer every question posed by students.

- Familiarize students with the "Rule of 72," which provides a tool for estimating how long it takes an investment to double in value. Simply divide the interest or return rate into 72 and the answer is the amount of years. For instance, if you are getting an 8 percent dividend return, it will take 9 years for your original investment to double.

- Use outside resources whenever possible. If teachers are short on funds but want to bring some resources to the classroom such as a daily newspaper or magazine subscription, or need funding for simulation game fees, approach local stockbrokers, banks, or newspapers and ask for a donation. They will often oblige.

- Find training. Miles attended a free weeklong summer seminar sponsored by the New York Stock Exchange. Organizations such as state departments of education provide training sessions and classes during the summer and school breaks.

- Make sure students know the difference between saving and investing. The days of high interest on savings accounts are gone. If students want their money to grow to meet their long-term goals they have to look at such places as the stock market. "The difference between saving and investing is that savings is parking your money for a while," says **Elizabeth Schiever,** director of the High School Financial Planning Program for the National Endowment for Financial Education. ■

# Investing for Life: The Importance of Diversification and Financial Discipline

Investing in the stock market is an important part of lifelong financial fitness, but it is not the only part.

"We believe that students have to understand that financial planning is a comprehensive process," says **Elizabeth Schiever**, the director of the High School Financial Planning Program of the National Endowment for Financial Education.

*Keying In* addressed the overall need for financial literacy in its September 2002 issue. There, NBEA members can read about ways to educate students in such important areas as budgeting, credit, comparison shopping, and taxes.

As well, teachers should emphasize the importance of diversification of investment assets as a way to protect individual financial security, a topic that also was discussed in the January 2003 *Keying In*.

Financial experts recommend that at any one time, individuals should have enough cash in a savings account or similar instrument to cover their basic living expenses for six months. Once that goal is met, other more long-term savings goals can be addressed in part through investing in the stock market, but only with money that will not be needed for at least five years. That five-year window offers some protection against price plunges, such as the double-digit drops that the markets experienced in the last three years.

Financial planners say that an individual's first investments in the stock market should be through mutual funds, which allow people to pool their money with many others to own a diverse mix of stocks. In that way, an individual is not exposed to the risk associated with holding the stock of just one or two companies. Unfortunately, employees of Enron learned how dangerous that could be earlier this decade as many saw their retirement savings, invested mostly in their company's stock, retreat to near nothing.

There are hundreds of mutual funds, many specializing in a certain stock sector, such as utilities, small companies, technology, or health care. There are other mutual funds that hold a wide variety of stocks, some mirroring the diversity of such major indices as the Standard & Poor's 500. As an investor begins to get into the stock market, she should make sure that her first mutual fund is widely diversified, to protect against large drops in any one stock or any one stock sector.

Further diversification can be achieved by investing in bonds and real estate. How an individual achieves a certain diversification mix depends on factors such as age and tolerance for risk. While bonds hold more short-term safety than stock, historical data shows that stock investments will earn more money in the long run.

"There are real benefits to long-run savings and investments plans," observes John Morton, vice president for program development for the National Council on Economic Education. "Students should know that any investing program should be diversified. I would want them to have a good, basic knowledge of investing vehicles, such as stocks, bonds and particularly mutual funds."

Adds Schiever: "I think it is really important to lay a financial foundation and then get into the stock market … The stock market is one way to invest and there are other ways. They (students) need to understand their risk tolerance and what funds they have available. With the stock market as volatile as it has been, you need to have some savvy." ■

## The Need to Know

Teachers interviewed for this newsletter were asked this question: What do you want your students to understand about the stock market when they walk out of your investment or personal finance class?

Compiled below are the terms and concepts that the teachers listed in their replies. Space does not permit *Keying In* to define all these terms here; however, everything from definitions to exhaustive explanations can be found on the Web sites and in the teaching materials mentioned in the "Resources" section.

- Stocks
- Mutual funds
- New York Stock Exchange and how it works
- Nasdaq stock exchange and how it works
- American Stock Exchange and how it works
- The major stock indices:
  - The Dow Jones Industrial Average
  - The Nasdaq Composite
  - The Standard & Poor 500
  - The Amex Composite
  - The Russell 2000
  - The Wilshire 5000
- Penny stocks
- Initial Public Offerings (IPOs)
- Strategies for picking stocks or mutual funds
- Strategies for deciding when to sell a stock or mutual fund
- Price to Earnings (P/E) Ratios
- Dividends
- Capital gains and losses
- Rate of return
- Compounding
- Diversified portfolio:
  - Growth stocks
  - International stocks
  - Small cap stocks
  - Large cap stocks
  - Value stocks
  - Cyclicals
  - Non-cyclicals
- Individual Retirement Accounts (IRAs)
- 401(k) plans
- Economic indicators, including
  - Consumer Price Index
  - Consumer Confidence Index
  - Unemployment Rate
  - Gross Domestic Product measurements (GDP)
  - The Index of Leading Economic Indicators
- Bull market
- Bear market ■



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# Who Wants to Be a Millionaire?

While the popularity of the television show by that name has faded, the popularity of the sentiment behind this question certainly has not. Without doubt, most business education students would answer this question in the affirmative.

However, how many would have the confidence to predict that they actually can become millionaires?

The answer is one that will surprise them: They don't have to be business geniuses to become millionaires. If they are patient, the odds are that this goal is within their grasp if they follow three simple rules.

1. Starting saving at least $100 a month by the time they are 21.
2. Put the money in a tax-free IRA account that invests in a mutual fund that mirrors one of the stock market's broad indexes, such as the Standard & Poor 500 or the Wilshire 5000.
3. Don't withdraw any money.

By the time a student reaches the age of 67, he or she could very well have stock portfolio worth a little over one million dollars. (Of course, by the time the students have reached the age of 67, they should also have some of their money in more conservative and less volatile investments such as bonds, but teachers can save that lesson for another time.)

## The Explanation

The success of the three-step strategy is dependent upon three premises:

The first assumption is that the U.S. stock markets will award investors with an average annual return of about 10 percent, which can be mirrored in an index fund. (Ten percent is what the National Center for Policy Analysis reports was the average return rate adjusted for inflation between the years of 1906 and 2000. This figure takes into account wide yearly swings in returns in this 94-year period, the worst year saw a drop of 35 percent, and the best year saw an increase of 47 percent.)

Second, the annual returns or profits remain with the original investment. This in turn gives a larger base each year on which new returns are earned, illustrating the value of compounding.

Third, the income from the investment is not taxed, which is possible with a retirement account such as an IRA.

Students could see this readily if they built a spreadsheet like the one illustrated here. It takes into account the student's age, the yearly amount saved and invested, and a 10 percent additional accumulation from the previous year's investments. (It does not attempt to figure average daily interest, which would become too complicated a spreadsheet to construct.) Once such a spreadsheet is built, students can plug in different ages and yearly amounts of savings and see how the totals can vary. For example, if a student saved $3,000 (instead of $1,200) a year starting at the age of 21, he or she could reach that million-dollar mark by the age of 57.

This simple spreadsheet can also illustrate to students the value of compounding when starting their retirement savings plan early. For example, if a person invested $3,000 annually for only 10 years, from age 21 to 30, and then not a penny after that, he could still accumulate a million by the age of 62. If the same student started saving the same $3,000 annually at age 40, he would have to continue saving $3,000 a year until he reached the age of 77 to reach one million dollars. ■

### The Magic of Compounding: The Making of a Millionaire

| Age | Yearly Savings | Total from Previous Year | Total Amount in Account (sum of previous three columns) |
|---|---|---|---|
| 21 | $1,200 | $0.00 | $1,200 |
| 22 | $1,200 | $1,200 | $2,520 |
| 23 | $1,200 | $2,520 | $3,972 |
| (years 24-34): | : | : | : |
| 35 | $1,200 | $33,569.88 | $38,126.98 |
| (years 36-43): | : | : | : |
| 44 | $1,200 | $95,451.63 | $106,196.79 |
| (years 45-66) | : | : | : |
| 67 | $1,200 | $950,154.38 | $1,046,369.82 |

If students become intrigued with this chart, have them visit the Personal Finance section of The Motley Fool Web site. (www.fool.com). In that section they can click on a more sophisticated calculator (http://partners.financenter.com/motleyfool/calculate/us-eng/savings01.fcs) that takes into account inflation, tax rates, etc., and allows them to plug in different scenarios, altering their timeframes for earning that cool million. Warning: this calculator also tells students what inflation will do to their million dollars three or four decades hence. For example $1 million 41 years from now will be equivalent to $302,514 in today's dollars, assuming a 3 percent annual inflation rate.



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# STOCK MARKET SAVVY

## RESOURCES

Teachers interviewed for this issue of *Keying In* also were asked to name their favorite resources. Not surprisingly, Web sites topped the list. Following is a compilation of their Web site recommendations.

For teaching materials and resources available at no or little cost:

- Financial Literacy 2010: www.fl2010.org
- Jump$tart Coalition: www.jumpstart.org
- National Council on Economic Education: www.ncee.net
- National Endowment for Financial Education: www.nefe.org
- Nasdaq educational services: http://www.nasdaq.com/services/education_initiatives.stm
- New York Stock Exchange Educational Services: www.nyse.com (click on About the NYSE link)

For students conducting research on individual stocks or the stock markets:

- www.bloomberg.com
- www.cbsmarketwatch.com
- http://finance.yahoo.com/ or www.yahoo.com
- www.fool.com
- www.hoovers.com
- www.morningstar.com
- www.nasdaq.com

Simulation Games:

- www.smg2000.org
- www.stocktrak.com

Print Resources:

- *The Wall Street Journal Classroom Edition*, a monthly publication that carries a subscription cost, and includes access to a dedicated web site, was enthusiastically recommended by several teachers. http://www.wsjclassroomedition.com

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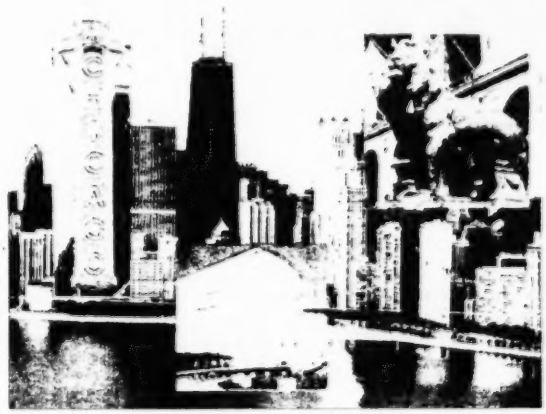

Plan to join us for the 2004 Annual Convention in Chicago, Illinois, from April 7-10. Look for full session, workshop, and seminar descriptions in the December issue of *Business Education Forum*. Convention sessions, workshops, and seminars will target issues critical to successful business courses and programs at all levels of education. Visit our Web site at www.nbea.org for more information.



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